

### B. Amendment to the Specification

Please amend the paragraphs on page 2, line 18 - page 3, line 18, as follows:

--As shown in Fig. 7, the top plate 101 and the heater board 108 are closely jointed or bonded so that each of the nozzles 103 is arranged to oppose the respective heater 109. The nozzles 103 and the surface of the heater board 108 constitute thin and long discharge nozzles. At this time, the positions of the top plate 101 and the heater board 108 are precisely adjusted to ensure that each of the heaters 109 is placed inside the respective nozzle 103. The recording liquid is supplied from a recording liquid tank (not shown) to the liquid chamber 102 and reaches the nozzles 103. The heaters 109 on the heater board 108 are controlled by a controlling circuit (also not shown) and are individually ~~individually~~ energized according to printing data. The controlling circuit may be placed on the heater board 108 or may be formed on another substrate.

Each of the heaters 109 individually ~~individually~~ energized according to the printing data emits heat so as to heat the recording liquid contained in the nozzle 103. The heated recording liquid boils when a crucial temperature is reached and generates bubbles. These bubbles grow in a short period of time, i.e., in several  $\mu$ s, and provide an impact force to the recording liquid. Part of the recording liquid is pushed out from the discharge opening of the nozzle 103 as flying droplets due to the significant force of this impact and reaches the recording medium such as a sheet of paper, etc. An image is printed by repeating these steps.--

Please amend the paragraph on page 4, lines 2-22, as follows:

--In Figs. 8A and 8A', a silicon wafer 105 which constitutes the top plate (nozzle member) provided with the liquid chamber and the nozzles, has a <110> crystal orientation at the surface and a <111> crystal orientation [[of]] in the longitudinal direction of the nozzles. A silicon dioxide (SiO<sub>2</sub>) thin-film 106 of 1 μm in thickness is formed on both sides of the silicon wafer 105 by a deposition process such as a thermal oxidation process or a chemical vapor deposition (CVD) process, as shown in Figs. 8B and 8B'. The silicon dioxide thin-film 106 functions as a mask layer during anisotropic etching of the silicon. Then, one surface (the surface which will be provided with nozzles, hereinafter referred to as the "nozzle surface") of the silicon dioxide thin-film 106 is patterned into a shape of the nozzles and the liquid chamber combined, and the other surface is patterned into a shape of the liquid chamber by using a standard photolithography technique (Figs. 8C and 8C'). The nozzle surface is coated with a silicon nitride (SiN) layer 107 by a method such as a CVD method (Figs. 8D and 8D') and is patterned into the shape of the liquid chamber (Figs. 8E and 8E').--

Please amend the paragraph on page 11, lines 7-19, as follows:

--According to the method for manufacturing the liquid jet recording head of the present invention, the compensation patterns extending to the inner portion of the liquid chamber region are [[is]] additionally provided on the mask layer for anisotropic etching when the top plate (nozzle member) is fabricated by silicon anisotropic etching, and the nozzle surface of the liquid chamber is formed to be substantially rectangular by over-etching the portion with the compensation pattern during the anisotropic etching.

Thus, the chip size of the top plate can be reduced, the number of the chips obtained from a wafer is increased, and liquid discharging characteristics of every nozzle can be uniform and stable.--

Please amend the paragraph on page 14, lines 15-22, as follows:

--In Figs. 1A to 1H and 1A' to 1H' for explaining a process of fabricating the top plate according to the first embodiment of the present invention, Figs. 1A to 1H on the left side are cross-sectional views of the top plate [[cut]] along a plane parallel to the liquid discharging direction. Figs. 1A' to 1H' on the right side are the bottom views of the lower surface (the surface provided with nozzles) of the top plate.--

Please amend the paragraphs on page 18, line 6 - page 19, line 10, as follows:

--As is apparent from the above description, because the top plate of the present embodiment is penetrated and is provided with the substantially rectangular shaped liquid chamber having the sides substantially parallel to the nozzle arraying direction, raw material can be used effectively and the top plate having uniform liquid discharging characteristics can be obtained. It should be noted that the pattern at the recording liquid supplying side (i.e., the side opposite the nozzle surface) may be reduced in size so as to barely allow a hole to be penetrated ~~penetrate~~ by the anisotropic etching. Preferably, from the point of view of connecting to the recording liquid supplying member and securing the

wafer strength during the fabrication of the top plate, the pattern at the recording liquid supplying side is smaller than that at the nozzle surface.

Next, the silicon nitride layer 7 on the nozzle surface is removed by etching (Figs. 1G and 1G'). The nozzle pattern formed in the silicon dioxide thin-film 6 in Figs. 1C and 1C' is exposed and anisotropic etching using a TMAH solution is performed once again to etch the part corresponding to the nozzles and to form the nozzles 3 (Figs 1H and 1H'). Although the liquid chamber 2 etched as shown in Figs. 1F and 1F' may also be etched at this stage, the time period required for etching the nozzles 3 is relatively short compared to that required for etching the liquid chamber 2 and the shape of the liquid chamber shape is barely effected. Alternatively, the etching for forming the liquid chamber 2 may be performed for a shorter period of time by taking into consideration the period required for the nozzle etching so as to ultimately obtain the desired shape.--